

# **Management Plan for Rasmussen Woods/Indian Creek Slough Nature Area**

## **I. General Management and Background**

### **A. Overview and Purpose**

The purpose for all management activities on public lands is to protect and maintain the features for which the area was intended. This management plan is intended to protect the ecological integrity of the native plant communities, habitat, natural systems, and geologic landforms of the Rasmussen Woods/Indian Creek Slough Nature Area (hereinafter referred to as "Rasmussen Woods/Indian Creek Slough"). In this case, the goals of protecting and maintaining the area's integrity can be reached with relatively little management intervention. This is one area where minimal management activity can actually effectuate the goals.

The purpose of Rasmussen Woods/Indian Creek Slough is the preservation of the property as a natural area with passive educational opportunities focused toward ecological themes. For the purpose of this plan, a natural area is defined as a unique scenic, historic, geologic or ecological value and of sufficient size and character so as to allow its maintenance in a natural condition by naturally occurring physical and biological processes, usually without direct human intervention. These areas are set aside to provide locations for the observation and appreciation of natural systems and to protect outstanding examples of natural interest and beauty.

It is the purpose of this management plan, and the intent for implementation, that management of the natural area shall seek to avoid and minimize any environmental disruption to Rasmussen Woods/Indian Creek Slough.

### **B. Management Authority**

The lands within Rasmussen Woods/Indian Creek Slough will continue to be managed by the City of Mankato. However, the possibility remains open for the City to enter into a future cooperative management agreement with a local citizen's group, non-profit agency, or other entity to:

- 1) Assist the City in the management of a portion of the lands; or,
- 2) Assume responsibility for a specific task(s) that helps the City achieve the overall management goal for the area.

All such cooperative management agreements will be reviewed by the City Manager's office and City Council prior execution and shall only be approved provided the terms of the agreement and management strategy further the purpose and intent of Rasmussen Woods/Indian Creek Slough. In no case, will any entity be allowed to undertake activities that are contrary to the purpose and intent of the Rasmussen Woods/Indian Creek Slough and this management plan.

### **C. History and Site Description**

Below is a timeline history of the property currently designated as Rasmussen Woods/Indian Creek Slough. This history was compiled using City records and information from the Blue Earth County Historical Society, including a history of Indian Creek Slough written by Win Grundmeier. In some cases, personal communication was obtained, such as conversations with William Henry, who worked for the City of Mankato in the 1970's and was involved in the purchase of the area from the Rasmussen Estate. The history provides the basis for the purpose and intent of the area and for the drafting of the management plan to effectuate the purpose and intent.

1850's Land originally owned by the Whiting (eventually Rasmussen property) and Jakobe families (the lower Slough area abutting Stoltzman Road).

Late 1880's Property that was later consolidated by Robert Rasmussen in 1939 was owned by the Sacred Heart Orphanage. The orphanage building was located at the site of the current house located at 222 Sunset Blvd. The orphanage operated from 1910 to 1915. It housed as many as 15 children, ranging in age from 3-18 years. Approx. 80 children lived there over the 5 year period. The home closed in 1915 after the death of Sister Mary Joseph Crehan. The Sacred Heart Home for Orphans was originally established in 1879 at Ionna, MN (Murray County) and continued in operation after the closing of the home in Mankato.

After 1915, the property underwent several ownership changes, including partial ownership by Charles Eginton.

1930's T.C. Edwards in the mid-1930s campaigned to have a golf course built in part of the Indian Creek Slough. This area, known as Memorial Field, was owned by the City of Mankato and located north of the Jakobe property. Three sand "greens" were tentatively laid; however when Indian Creek flooded in the spring, as customary, the work had been washed away. The project was abandoned.

- 1939 Robert Rasmussen purchased the property formerly owned by the Sacred Heart Orphanage and others. The house at 222 Sunset Boulevard (former orphanage location) was not part of the purchase as the existing orphanage had been demolished and a home constructed on the site. The property at 222 Sunset Boulevard had apparently been split from the larger tract sometime before the purchase by Rasmussen (source 1919 plat map which shows home on 222 Sunset Boulevard as separate parcel). After acquisition, Robert Rasmussen subdivides part of the property into Sunset View Addition , which also involved land holdings of several other landowners in the area, thus creating lots along Sunset Boulevard (200-220 blocks), and Eginton Road.
- 1946 Robert Rasmussen constructs his home at 235 Sunset Boulevard. There is a small house located south of his residence that was occupied at times according to City directories, by his son Chester Rasmussen. This house was eventually moved to its present location at 226 Sunset Blvd when the current home at 239 Sunset Blvd was constructed by William Blethen in the 1970's. Mr. Rasmussen uses the property for personal uses and keeps horses on the property. Aerial photographs from the 1950's show riding trails and a small track in the vicinity of the home at 235 Sunset Boulevard.
- 1968 Robert Rasmussen dies and leaves his estate to his two natural born children by his first wife (Chester Rasmussen and Altine Davis), and his stepson George Dehring, from his second wife.
- 1971 City enters into option agreement for the property
- 1971 Land Acquisition – Grant Funds

July 16 - City of Mankato purchases the property known as Rasmussen Woods from the estate of Robert Rasmussen for \$193,165.00, which was the appraised price for the property based on development potential. Federal and State grants were used for the purchase of the site – the Land and Water Conservation Fund/Legislative Commission on Minnesota Resources. (LAWCON/LCMR). In addition, revenue from the sale of City property in the vicinity of the Franklin Rogers Ball Park and 4H building was used as a local match.

Original proposal by City staff was for the site to be used as a ball-diamond complex. However it was also suggested that the area be used as a nature educational area. The ball field concept was rejected in part because of the original intent for the sale. As confirmed by William Henry, who was employed by the City at the time and worked on the grant for purchase, Chester Rasmussen wanted the area to be minimally improved and maintained as a nature area.

Not all of the Rasmussen property was sold to the City. Part of the property was platted for residential development. The homes at 226, 231, and 239 Sunset Boulevard are located on lots platted by the Rasmussen Estate at the time the land was sold to the City. Another lot was created for the existing home at 235 Sunset Boulevard, which was later divided to create a lot for the current home at 233 Sunset Boulevard.

1972

A Plan for the Park

A plan is developed regarding the future acquisition and development of Rasmussen Woods/Indian Creek Slough. The plan indicates the intention to preserve, protect and enhance the natural beauty of the area. Access to the park will be controlled to minimize any environmental disruption. A theme of "passive recreational activity" is devised that includes future trails, outdoor education center, and sanitary facilities. The trail system would link the park to Mankato State College, Mankato Senior High School and other elementary schools, all within a short walk of Rasmussen Park. Additionally, trails will connect and run through Indian Creek Slough.

Another plan is developed by a local group, Pupils United to Restore the Environment (PURE), to use the area as a nature study area involving habitat, nature observation areas and foot trails.

1973

The First Major Donation

December 26 – the family of Dr. H. Bradley Troost gives \$3,000 for the construction of nature trails, markers, benches and wildlife feeders in Rasmussen Woods Sanctuary.

1973-1976

Little improvements are made to the area and unauthorized uses start to occur, such as unauthorized trail use and motorized vehicle trespass.

1977 Based on concerns that the area is uncontrolled and unauthorized activity is continuing, planning begins on improvements that would formalize the status as a natural area.

#### Neighborhood Concerns

May 22 – A neighborhood group raises concerns about the proposed improvement of the area. They hope that the area will remain quiet and peaceful and would be opposed to any man-made trails or paths hoping visitors would be free to walk as they choose – trails would develop naturally. They believe picnic shelters to be unnecessary and incompatible with the City's commitment to maintain this area in its natural state.

#### Public Meeting

May 25 - A public meeting was held at the 'Minnesota Valley Regional Library' to discuss "improvements regarding the Rasmussen Park and the Indian Creek Slough area." Enhancement proposals that were discussed at Rasmussen Park include tree plantings, nature trails, water service, an outdoor picnic shelter and parking and traffic control. Items to be discussed at the Indian Creek Slough area include trails, tree plantings, slope stabilization, trails, and provision of parking areas. One result of the community meeting is the name. "Rasmussen Woods" is chosen over the name "Rasmussen Park" to reflect the purpose as a natural area.

1980 Park Enhancement Grant Application

September 25 – A grant application is submitted for the enhancement of Rasmussen Woods/Indian Creek Slough. The proposed project includes an access road and parking area, picnic shelter and picnic area, nature trails, a shelter with water service and landscape work. The City of Mankato Parks and Forestry division would be responsible for operation and maintenance of the park – general fund monies are to be used. No detailed maintenance plan is provided with application, however, Minneopa Park is noted as an equivalent area.

### Archaeological Reconnaissance Survey

November - An Archaeological Reconnaissance Survey of Rasmussen Woods/ Indian Creek Slough is produced by the Minnesota Historical Society. No sites of historic, architectural, cultural, or archaeological significance will be affected by the proposed enhancements. Artifacts are noted, but would not be disturbed by the proposed improvements, which are designed to be minimal.

1981

### Citizen Concerns about the Future of the Park

August 6 – Elsie Jean Austin of Duluth (daughter of long-time Mankato residents who passed in 1979) writes to Floyd Roberts, Mankato Parks, concerned about the development of Rasmussen Woods/Indian Creek Slough. Ms. Austin cites concern for disturbing the Sunset Boulevard neighborhood with increased traffic.

August 11 – Mr. Roberts responds saying that the proposed project "...will not have any development in it except for a few trails. These trails will hopefully encourage visitors to the area to utilize the trails and not wander at will or establish new trails. The trails to be maintained are mostly existing trails and will not require establishment, only marking and maintaining. The environment will be disturbed as little as possible..."

August 13 – A group of concerned citizens writes to Floyd Roberts indicating their desire for as little disturbance to Rasmussen Woods as possible and would like to see plans for development later in the year. They also go on to suggest the interpretive center be located at the Stoltzman Road entrance to the park rather than the Sunset Boulevard entrance. The group cites concerns of traffic congestion along with elderly and handicap access.

Rasmussen Neighborhood group members include: Mr. & Mrs. Michael Fox, William and Toy Blethen, G. Rasmussen, Noel Kendall, Elizabeth Butzer, Tom and Kristine Bruhn, and Bill Kjarum.

## City Plan is Outlined

September 1 – Correspondence between Floyd Roberts and the Rasmussen Neighborhood group indicated the group's desire to "preserve Rasmussen Woods in its natural state."

Mr. Roberts indicates the following plans for the park:

1. The basic trails system will remain as is, except for any minor improvements deemed necessary for erosion control, trail safety, or additions.
2. The lower meadow will remain without cutting and prairie plants introduced and encouraged.
3. The upper meadow will realize few changes except for tree or shrub plantings and a possible interpretive center. As this time there are no plans for playground equipment of any kind to be installed. If wild flowers can be encouraged in the area, we should do so.
4. The Stoltzman Road entrance would be the major entrance, but the Sunset Boulevard entrance should be retained. Also, an interpretative center at each entrance would be beneficial, with emphasis placed on Stoltzman Road.

September 14 – The Rasmussen Neighborhood group sends a letter to Floyd Roberts. The group indicates their hope that the City "...will adhere to the original stipulations as set forth by the Rasmussen family..." They express the desire to preserve Rasmussen Woods in its natural state.

December 4 – Letter to Floyd Roberts (Parks Superintendant) from William C. Blethen regarding Rasmussen Woods. Mr. Blethen's concerns are of future development and asks if there is any documentation of stipulations that were made when the area was purchased from the Rasmussen estate in 1971 – if so he would like to see it. No response is recorded and later research by City Attorney MacCauley finds no stipulations.

December 22 – 3.18 acres of land along the west side of Sunset Boulevard is annexed by the Mankato Municipal Board.

## Grant Funds are Used to Enhance the Park

State and Federal Grants totaling \$69,175 are used for the development of picnic shelter building, trails, landscaping, parking lot, water service and access roads.

### 1985 The Nature Area Opens

Rasmussen Woods opens as a City park and nature center.

*Free Press* – Floyd Roberts: the work done to prepare the park has the intent of preserving the area. The site will be altered as little as possible. "The only trees we're cutting down are ones that are hazardous to the trail."

1986 March 24 – Dale E. & Pamela J. Brower donate land to the City of Mankato to be used for park land and the expansion of the slough area.

1987 Rasmussen Woods becomes an Educational Facility  
Rasmussen Woods opens as an educational facility. Students from area schools, YMCA days camps, Boy and Girl Scout troops, and Community Services playgrounds take tours of the park and participate in environmental education activities.

1988 Nature Center Discussions and Planning  
July 8 – A letter from Floyd Roberts to the Minnesota Department of Trade and Economic Development indicating the intent of the City of Mankato to apply for development funds for the construction of a nature center at Rasmussen Woods. The structure would be used by thousands of visitors as an area to exhibit, instruct, and otherwise enjoy the wildlife in the area.

1989 State Agency Pleased with Park Enhancement and Maintenance  
May 10 – A letter from the Minnesota Department of Trade and Economic Development, Outdoor Recreation Grants Section, made an on-site visit the revealed that the Park is being properly maintained and operated for public outdoor use. The letter goes on to commend the City of its commitment to providing a high-quality outdoor recreation facility for the resident of Mankato.



1990

Mankato Elks Club Donates \$42,000 for Nature Center

Elks Club donates \$42,000 to help complete the interpretative nature center. Total project cost of \$80,000. Note, the Nature Center is not located on the property purchased from the Rasmussen Estate but is located on part of the property obtained from the Jakobe Family.

August 11 – Elk's Nature Center grand opening.

1991

June 18 – Dr. Phillip S. Kelley donates land to the City of Mankato for the expansion of Rasmussen Woods to the West Mankato Trail.

Lutes-Kelly Expansion

July 22 – Richard Lutes donates land to the City of Mankato for the expansion of Rasmussen Woods to the West Mankato Trail.

A phone interview with Charles Lutes (Richard's son - currently living on Eginton Road) revealed that Richard and his wife were *proponents* of the Rasmussen Woods/West Mankato Trail connection. As a young boy, Charlie remembers spending significant time in the wooded area exploring and feels that the area in its current state is consistent with how his father envisioned the park being used by the public. He also noted that his father never thought the park would be as "wildly popular" as it is today.

Community Petitions for more Enhancements

August – A formal petition to the City Council made by two Mankato eighth grade students and signed by 168 residents, requests the reopening of the Rasmussen Woods trail connection on the Parkview Avenue right-of-way. At the time, erosion from street runoff on Oak Knoll Boulevard and Parkview Avenue had caused more flow than the existing culvert could handle and a major washout occurred at the outlet. (September 23, 1991 Council Meeting)

Park Usage is Studied

A study was conducted that examined who is visiting Rasmussen Woods and why. The study found that 87 percent of visitors were over the age of thirty. Also, 84 percent live within a 10 minute drive of the park. Weekends and evenings are the most convenient times to come to a nature program at the Elks Nature Center.

1992

Park Programming

After the opening of the Elks Nature Center the group known as the Retired Senior Volunteer Program provides the programming for the center.

City of Mankato applies for grant of \$26,000 to be used for the expansion of the trails within Rasmussen Woods and Indian Creek Slough – with a total project cost of \$52,000. The expansion made possible the connection of West Mankato Trail to the Rasmussen Woods Park using the property obtain from Kelly and Lutes. Two floating trails were added as well as two fifteen foot bridges and an additional 1,600 feet of wood-chip trails.

August 19 – Mankato Environmental Committee examines the Rasmussen Woods/West Mankato Trail Connection project and approves the project as submitted.

1993

Grant Secured

A federal grant of \$27,500 is received for the development of trails, and floating boardwalks within Rasmussen Woods/Indian Creek Slough.

1995

Bunny and Fred Just donate \$10,000 to the City of Mankato to be used in Rasmussen Woods Park. The funds were primarily used for the construction of a Gazebo near the Troost Pond.

1996

Deer Problems – Hunting Program

August 14 – A meeting is held to discuss a problem with deer feeding on neighboring properties in the Sunset Boulevard/West Mankato area. Some residents expressed concerns about deer feeding on their flowers, vegetables and shrubs.

1997

March – A neighborhood meeting is held in the Oak Knoll/Sunset Boulevard area to discuss issues with deer.

Eleanor Tronvold donates \$5,000 to the City of Mankato to be used in Rasmussen Woods at the Elk Nature Center.

1998 - 2003 City Staff Devoted to Programming

Programming at Elks Nature Center includes: Crafty Raccoon Hour, Wildflower Hike, Preschool Story telling, Constellation Night, and Amateur Bird Watchers event. These programs were provided by City staff.

2003

Urban Deer Reduction Program begins, with hunting allowed in Rasmussen Woods/Indian Creek Slough.

- 2004      A New Programming Model Adopted  
January 26 – The City of Mankato enters into an agreement with ISD #77 to provide programming services at the Elks Nature Center. The agreement also establishes an Advisory Board that will be a resource for programming, volunteer recruitment, revenue enhancement, grant procurement and solicitation of donations and gifts.
- 2010      Partnership with Minnesota State University, Mankato  
Through a partnership with MSU,M using interns, current programming includes: Bird Watching, Hike with a Friend, Babes in Nature, Summer Night Hike and Campfire, Evening Adult Naturalist Programs, and Family Fun Saturdays.
- Children’s Programs include: Wee Naturalist, Nature Rangers, Volunteer Program (for teens), and Book Clubs.
- 2011      Management Plan is Drafted for Adoption
- The City purchases approximately 5,334 square feet of property from John and Lisa Bigham in order to relocate the floating trail which had been damaged during the flooding events of 2010.

## D. Existing Conditions

Rasmussen Woods/Indian Creek Slough area is a nature area used for a number of passive complimentary purposes. The scenic views and varied habitats provide opportunities to enjoy the natural world, including birding, hiking, and cross country skiing. The property contains a system of rustic trails, interpretative buildings, and shelters.

The Elk's Nature Center building is located on Rasmussen Woods Drive, which is accessed from Stoltzman Road. The Elk's Nature Center provides a permanent structure for promoting environmental education programs. Periodic special interest events and programming are offered for adults and children.

Refer to the attached map for existing conditions and designations of natural resources. In the list of future projects that would support the management plan, developing a detailed inventory of the native plant and animal species is recommended. This will assist in establishing a baseline for determining the ecological profile of the nature area.

Following is an outline of the major plant and habitat regimes:

1. Mesic Hardwood Forest System – Approximately 60 acres of Southern Mesic Oak – Basswood Forest is located in Rasmussen Woods/Indian Creek Slough according to the Native Plant Communities and Rare Species of Blue Earth Brown, Le Sueur, Nicollet, and Sibley Counties (map attached). The system is further defined as a Red Oak – Sugar Maple – Basswood – (Bitternut Hickory) Forest. The Mesic forest is located on steep slopes along on stream valleys. Canopy trees include northern red oak, sugar maple and basswood; other canopy trees include bitternut hickory, green ash, and bur oak. There exists several examples of ironwood, cottonwood, and Kentucky coffee trees in the forest. Sugar maple is the most abundant trees in the subcanopy.

Because of the size and estimated age of the trees within the forest system, the area could be classified as an northern hardwood old growth forest community. Refer to Minnesota Department of Natural Resources Old Growth Forest Guidelines, May 1994.

2. Type 3 Wetlands- Type 3 - Shallow Marsh. Soil is usually waterlogged early during growing season and often covered with 6 inches or more of water. Vegetation includes grasses; bulrush; spikerush; and various other marsh plants, such as cattail, arrowhead, pickerelweed, and smartweed. Much of the wetland areas in the Rasmussen Woods/Indian Creek Slough is classified as Type 3 wetlands. NWI Symbols: PEMC and F, PSSH, PUBA and C.

3. Type 7 wetland - Wooded Swamp. Soil is waterlogged within a few inches of the surface during the growing season. Often covered with as much as 1 foot of water; water table is at or near the surface. Vegetation includes silver maple, black ash, dogwoods and alder species of shrub swamps. Groundlayer species include some of the ferns, sedges, grasses and forbs of sedge meadows and fresh (wet) meadows. A forested wetland exists to the south of the Lower Meadow (refer to map) and is bordered by Type 3 wetlands (see above). NWI Symbols: PFO1, 5, and 6B; PFOC and F.

4. Grasslands. Rasmussen Woods/Indian Creek Slough contains four main areas of grasslands. These areas are referred to as the Upper Meadow, Lower Meadow, Troost Pond Meadow, and Stoltzman Road Meadow.

The Upper Meadow is located along Sunset Boulevard and has traditionally been maintained as mowed turf. Recent adjustments have been made in the mowing plan.

The Lower Meadow is currently not mowed and consists mainly of non native smooth brome grass. This area contains edge habitat and is an example of active succession with native invasive species, such as sumac, succeeding into the grassed area.

The Troost Pond Meadow has been impacted in the past by filling from the dredging of the Troost Pond. Non native invasive plant species are prevalent in the meadow.

The Stoltzman Road Meadow was used as a food plat for deer and wildlife in the area. It has since been allowed been converted to grass land with smooth brome as the predominate species.

## **II. Natural Resource and Management Approach**

The guidelines contained in this document are intended to serve as a framework for adaptive management. Rasmussen Woods/Indian Creek Slough is equivalent to a Scientific and Natural Area (SNA) under criteria established by the Minnesota Department of Natural Resources. While this area may not qualify for inclusion into the SNA program, it is suggested that the management strategy reflect the SNA guidelines, which are structured as adaptive management strategies to promote natural systems and processes.

Adaptive management involves setting ecological goals, monitoring the effectiveness of management techniques implemented, and adjusting land management based on monitoring. In this way, the effectiveness of land management can be improved over time. Such an approach involves using the best scientific information currently available to make management decisions that are consistent with the overall goal of maintaining the ecological integrity of Rasmussen Woods/Indian Creek Slough.

At Rasmussen Woods/Indian Creek Slough, adaptive management will be implemented by emphasizing existing natural processes to achieve management goals. Where natural processes are no longer functioning properly or have been disrupted by human interference, management techniques will be designed to mimic natural processes if possible. In some cases, as outlined in this document, more active management may be appropriate in order to mimic or reestablish natural processes. All management activities will be based on an understanding of natural disturbance regimes and other natural processes – and not guided by human processes.

## **A. Natural Systems and Management Guidelines**

Ecologists and natural resource managers have worked together over the last decade to create recommendations for land management that is based on an understanding of ecosystem processes or natural dynamics. This approach represents the best of science-based land management that is most compatible with the preservation or restoration of an area's ecological integrity.

Two of the dynamics most frequently highlighted under such a framework are 1) succession and 2) natural disturbance regimes. Forest and wetland ecosystems rely on certain types of disturbance processes to maintain their array of native plants and animals, recycle nutrients, stimulate growth and reproduction, and provide for a number of other key functions. The recommendations contained in this management plan espouse the idea that management decisions will be aligned with an understanding of the timing, extent, severity, and frequency of natural dynamics. What follows is a broad grouping of management guidelines in relation to natural disturbance processes that drive groups of plant communities in Rasmussen Woods/Indian Creek Slough.

1. Mesic Hardwood Forest System. As stated previously, approximately 60 acres is comprised of a Southern Mesic Oak – Basswood Forest.

Management Guidelines: Human impacts and manipulation to the forest system is not warranted in most situations. The most common natural disturbances that occur in this system are damage from wind, snow, and ice. The result of these disturbances are mainly tree impacts and include deadfall, snags, dead and dying trees, and damaged trees. Impacted trees should be left in their natural repose in order to provide habitat and to allow the forest nutrient cycle to function naturally. Trees with defects, damaged trees, and dying trees should only be impacted if it is determined that detrimental impacts to the established trail corridor are possible (see discussion elsewhere in this document regarding trail maintenance). In those cases, careful consideration of management strategies should be examined with the goal of preserving the natural condition as the norm.

As indicated previously, the forest system is most similar to an old growth forest community. Management should be in conformance with the Old Growth Forest Management Guidelines published by the Minnesota Department of Natural Resources, May 1994. Specifically, management goals are to limit any disturbance and management shall be in accordance with the following:

1. These stands will not be selected for harvest or forest development work including salvage and timber stand improvements.
  2. Wildlife opening and browse regeneration development will not occur in these stands.
  3. Pesticides will not be used in these stands except when necessary to protect forest stands from a serious exotic threat (e.g., gypsy moth,).
  4. New road and trail development should not occur in these stands. Access or use will be restricted to existing trail corridors.
2. Grasslands - Rasmussen Woods/Indian Creek Slough contains three areas of grasslands. These areas are referred to as the Upper Meadow, Lower Meadow, and the Troost Pond Meadow.

Management Guidelines: The two most common natural disturbance processes for the designated grasslands are succession and fire. Fire has been discouraged as a naturally occurring process due to the proximity to urban uses; however, recently managed fires have been used to promote ecological diversity as part of a restoration project. In order to reintroduce native species, other strategies may be required such as mowing, herbicides, and seeding.

The Upper Meadow is located along Sunset Boulevard and has traditionally been maintained as mowed turf. During 2010/2011, mowing was reduced for more than half the area and the vegetation was allowed to grow. The level portion of the Upper Meadow in the vicinity of the houses on the 200 block of Sunset Blvd is sometimes utilized as a passive play field and was mowed.

The area is heavily infested with invasive species, such as yellow fox tail, and management should focus on controlling the invasive species and reintroducing native species. This effort should be done in coordination with outside experts on re-establishment of native grasses and forbs. It is proposed that this area be treated as a "no mow" area with mowing confined to periodic mowing along the street frontage, mowing to create a trail corridor from the entry point at the end of the cul de sac to trail system, and mowing the level area for a passive play field. However, upon the advice of experts, periodic mowing and other activities may be necessary to reestablish native plantings and control the invasive species. A specific plan for reintroduction of native species will be required to deviate from the mowing plan outlined above.

Recently the existing split rail fence was removed because of ongoing maintenance issues. If unauthorized vehicular access occurs after fence removal, utilization of native boulders (glacial erratics) may be appropriate.

The Lower Meadow is currently not mowed and consists mainly of non native smooth brome grass. Besides controlling additional non-native invasive species along the trail corridor (such as yellow fox tail) this area requires no management intervention. This area contains edge habitat and is an example of active succession with native invasive species, such as sumac, succeeding into the grassed area. This succession should be allowed to continue as an adaptive management strategy. In the future, native plantings may be introduced, but again this should be done in coordination with outside experts and the succession to a forested system should not be interrupted.

The Troost Pond Meadow has been impacted in the past by filling from the dredging of the Troost Pond. Non native invasive plant species are prevalent in the meadow. In the future, if dredging is determined to be absolutely necessary, the spoil should be removed to a remote disposal site rather than disposed of within Rasmussen Woods/Indian Creek Slough.

Because of past disturbances, the Troost Pond Meadow is in need of restoration and reestablishment efforts for native species. This is underway under agreement with the Many Rivers Chapter of the Prairie Enthusiasts. The establishment of native species requires an ongoing maintenance plan that may involve periodic mowing, but most likely burning. These activities and timing should take into account and be sensitive to nesting and breeding cycles.

3. Wetlands. As indicated previously stated the predominant wetlands are Type 3 - Shallow Marsh and Type 7 Wooded Swamps.

Management Guidelines: Common natural disturbances for wetlands are fire, flooding, fire, and windstorms/ice for forested systems. A complication for the management of this area is that much of the wetland area is impacted by the operation of the Mankato Flood Control Project because the area has a dual purpose as an impoundment area during flooding events.

"The Indian Creek Environmental Assessment", completed in 1974, contained specific recommendations for maintaining water flow through the areas at historic levels in order to preserve the wetland systems. Careful consideration on the operation of the flood control project should be given in conformance with the recommendations contained in the 1974 document. For example, diverting water at the Indian Creek Station on Indian Lake Road will impact beneficial flooding and affect hydrology. Conversely, impounding water for long periods will affect vegetation types and may present issues during dry periods. As recommended in the 1974 Study, the preexisting



flow and hydrology of the wetlands should be preserved in the operation of the flood control project.

Besides managing the water flow as recommended, particular attention should be given to the maintenance of culverts within Rasmussen Woods/Indian Creek Slough. For example, if culverts are cleaned, the spoil should be removed and not deposited on-site. In addition, the creation of or dredging of defined channels should be avoided because of the scope and effect of such channels and the negative effects on hydrology.

DRAFT

## B. Impacts and Strategies

What follows is a description of the impacts that may compromise the integrity of Rasmussen Woods/Indian Creek Slough. Each is accompanied by suggested strategies for addressing the impact. The impact and strategies are in **no particular order of importance**.

The list of impacts and strategies is by no means exhaustive, and therefore, strategies developed to address unanticipated threats may be appended to or integrated into the document. The same general rule also follows for new strategies in that they should be consistent with the overall goal of maintaining the area's ecological integrity and not disrupting the natural systems.

1. Deer – Uncontrolled urban deer populations can have a devastating effect on the natural environment, urban environment and create an increase in vehicle-deer mishaps within the community.

A city-wide deer hunting program was implemented, in partnership with the DNR in 2003, with the objective of controlling Mankato's urban deer population. The city program is a permit hunt sponsored by the DNR. The hunt is an archery-only hunt in which the archers must meet a minimum proficiency standard in order to be eligible to participate. Forty qualifying hunters are selected from those meeting the minimum proficiency standard. The goal of each year's hunt is to reduce the city-wide herd by 30 does. Successful hunters may also harvest a buck and are invited to return the following year. Management of the program was contracted out in 2009, but city staff retains oversight and control of the program.

### CITY OF MANKATO DEER HUNT HARVEST

	2003	2004	2005	2006	2007	2008	2009	2010
Deer Taken	26	11	15	23	25	23	19	19
Doe Taken	21	9	14	21	20	22	19	18
Buck Taken	5	2	1	2	5	1	0	1
Total Deer Seen	622	197	406	393	200	335	334	338
Total Doe Seen	312	125	189	154	85	157	200	218
Total Bucks Seen	111	42	38	47	36	23	55	38
Total Fawns Seen	199	30	181	192	79	155	79	82
Times Hunted	242	188	232	334	351	463	497	345

Since the implementation in 2003 the number of deer sightings and vehicle mishaps been reduced

The data for the deer hunt harvest in Rasmussen Woods/Indian Creek Slough is as follows:

### RW/ICS Deer Hunt History

	Deer Taken	Doe	Buck	Fawn	Deer Seen	Doe	Buck	Fawn
<b>2010</b>	7	7	0	0	161	141	19	UKN
<b>2007</b>	15	11	4	0	99	58	26	15
<b>2006</b>	10	8	1	1	253	94	28	131
<b>2005</b>	10	9	1	0	237	119	19	99
<b>2004</b>	10	8	2	0	162	102	37	23
<b>2003</b>	25	20	5	0	552	271	102	179

**\*Detailed data for 2008 & 2009 not available.**

#### Strategies:

Have the DNR conduct an aerial deer survey on a biennial basis. Work in conjunction with the DNR to determine if any modifications to the permit hunt need to be implemented; including the number and sex of deer harvested, number of hunters and stand (blind) locations within the city.

In addition, continue to educate the public and residents in the area regarding avoidance of conflicts with deer, such as utilizing deer resistant plants for landscaping. The fact is that deer are part of the system that existed long before the development in the area encroached into the deer's habitat; therefore, residents and property owners should be aware that presence of deer is the norm rather than an extraordinary occurrence.

2. Flood Control Management: The area designated for the Indian Lake Impoundment is located north of the access road to the Elks Nature Center. The operation of gatewells and period cleaning of culverts and gatewell structures is periodically warranted.

Strategies: As discussed previously, "The Indian Creek Environmental Assessment", completed in 1974, contained specific recommendations for maintaining water flow through the areas at historic levels in order to preserve the wetland systems. Careful

consideration on the operation of the flood control project should be given in conformance with the recommendations contained in the 1974 document. For example, diverting water at the Indian Creek Station on Indian Lake Road will impact beneficial flooding and affect hydrology. Conversely, impounding water for long periods will affect vegetation types and may present issues during dry periods. As recommended in the 1974 Study, the preexisting flow and hydrology of the wetlands should be preserved in the operation of the flood control project.

Besides managing the water flow as recommended, particular attention should be given to the maintenance of culverts within Rasmussen Woods/Indian Creek Slough. For example, if culverts are cleaned, the spoil should be removed and not deposited on-site. In addition, the creation of or dredging of defined channels should be avoided because of the scope and effect of such channels and the negative effects on hydrology.

The Troost Pond and another settlement pond located upstream from the West Mankato Trail have limited benefit for capturing sediment and controlling flows. Dredging of these areas should not be done unless some type of defined and demonstrated benefit to water management can be demonstrated. It should be noted that the 1974 study recommended against such ponds.

3. Invasive-exotic species – Invasive-exotic species can pose problems in nature areas by out-competing native vegetation and reducing the integrity of the plant communities they invade. Among these species are common buckthorn in some of the wooded habitats, glossy buckthorn in wetland habitats, and reed canary grass in wetland habitats. Other invasive exotic species may also be present.

Strategies: Train a volunteer citizens group to recognize infestations of invasive exotic plant species. Over the course of a summer, make a thorough baseline documentation of the extent and severity of invasive-exotic plant populations within the nominated tracts. Using this information, the City may choose to collaborate with other natural resource management partners to prioritize areas for action. As with any portion of this plan, the priority list must be related to the resource potential and ability to perform the removal of the invasive/exotic plants. This includes timing of removal for the most effective result. For example, removing buckthorn in the late fall has proven to be the most effective management technique.

Note that methods for controlling invasive-exotics are an area of active research. Seek the most current information. Depending on the species, habitat, and goals, a selection of physical, mechanical, chemical and biological control may be available. Use the most targeted, effective approach to control possible while keeping in mind the overall management goal of conserving ecological integrity. Keep in mind that in areas of heavy infestation it may be necessary to replant with native species appropriate to the habitat in order to fill the void created by the removal of most of the vegetation (in this

case non-native vegetation). Avoid introducing other uses or material into the area that are likely to introduce or spread new invasive-exotic plant problems.

4. Insect and disease outbreaks – Outbreaks of diseases and insects are a natural part of forest ecosystems. Rather than being viewed as extraordinary circumstances in need of correction, insects and diseases perform many of the vital functions of natural disturbance regimes, and are considered to be a necessary part of forest cycles.

However, it is useful to distinguish native insect and disease outbreaks from those that have been introduced from other parts of the world. Native plant communities have evolved with native insect and disease outbreaks. Like invasive exotic plants, introduced insect and disease problems arrive in North America with few natural enemies. Native plant communities have fewer defenses to cope with insects and diseases from other places.

Strategies: It is not possible to anticipate the variety of insect and disease problems that may eventually surface. Instead, a few general guidelines are offered for consideration by future land managers. First, it is advisable to assemble a team consisting of the City Forester, a forest pathologist and/or entomologist, and an ecologist to discuss the most up-to-date science available on the organism and its effects on the affected plant community. The University of Minnesota Extension Service and the Minnesota Department of Agriculture are examples of the kinds of technical support the City may wish to consult in order to make a decision about outbreaks. A diverse team of professionals will help to ensure that all the options are carefully weighed and that the decision made best reflects the overarching management goal of conserving ecological integrity as well as concerns related to costs.

The best defense against unwanted damage caused by insects and diseases is a diverse landscape comprising numerous plant communities with a full array of native plant species. In the event of an outbreak of a native disease or insect, trees that die as the result of the outbreak may be left standing if possible. Such trees, known as "snags," provide nesting habitat, resources for insects, retain moisture and provide shade. If they pose a risk to heavily used areas, dead trees could be felled but should be left on the ground.

In the case of an introduced insect, such as emerald ash borer, a range of options may be considered. The management of disease and insect outbreaks is an area of active research. Before deciding how to act, all the current information should be considered along with the risk to the primary management goal of conserving ecological integrity. Because ash are not a prevalent tree species in Rasmussen Woods/Indian Creek Slough, it is suggested that diseased and dead trees remain to provide habitat and be broken down naturally in nutrient cycle of the forest system.

If the City decides that the risk to the plant community is lowered by taking action, after consulting with a forest pathologist or entomologist, the City may decide to undertake a least invasive approach. In other cases, evidence as to whether a pathogen is native or introduced may be conflicting. Oak wilt is an example of such a pathogen. The best defense for many diseases is prevention through common sense measures. Oak wilt typically spreads from tree to tree by root grafts. The vector beetle infects trees that are physically damaged during the months of March through October. By first avoiding the kinds of construction and/or pruning projects that are inconsistent with the broad management goals and limiting activities that may disrupt the forest during most vulnerable periods, many problems can be avoided.

5. Trail maintenance – Downed trees on or near trails, encroaching brush, improving trail surface with natural materials, and addressing washouts along the trails are all examples of the kinds of issues that may need attention through trail maintenance. Some of the maintenance may strive to provide an enjoyable and safe experience for users. Issues arising with trails may also negatively affect the condition of the very resources the nature area designation was intended to protect.

Strategies: Have seasonal park crews or a volunteer adopt-a-trail program assume the responsibility of maintaining trails clear of brush and logs. Good judgment should be used during these activities, keeping the broad goal of maintaining ecological integrity in mind. For example, unnecessary brushwork should be avoided (e.g., outside the area of the trail). Examine all strategies, such as temporary trail relocation and pruning of hazard condition, for hazardous trees that may impact trails. Removal of hazardous trees, if determined to be absolutely necessary after examining all alternatives, should be done in a fashion to avoid collateral damage to other trees, habitat, and natural systems. Chainsaw work should strive to leave logs intact whenever possible, moving only the small section that is blocking the trail.

Trails should remain in a rustic minimally improved condition with woodchip surfacing only in areas that are actively eroding. Trail surfacing with asphalt or other impervious surface is not appropriate because of negative impacts on habitat and ecology. Seasonal mowing of the trail corridors within the meadow areas may be required depending on use and growing conditions. Particular attention should be given to minimize trail widths. It is recommended that trail corridors be no wider than 48 inches and the widths can be narrower depending on natural obstacles.

Benches along the trails should be made of native materials that are found in the Rasmussen Woods/Indian Creek Slough, such as downed logs. Introduction of manmade and synthetic materials is not appropriate. Signs along the trails should be made of natural materials normally found within a nature area, such as wood, and be limited to small directional way finding signage. In some cases, such as highlighting a unique feature, a more formalized interpretive sign may be appropriate; however, site,

situation, and view sheds should be examined in order to avoid a situation where the sign may negatively impact the intended experience of the visitor.

The floating trail that links the trail system to the West Mankato trail is in continual need of maintenance. Strategies should be examined that would anchor the trail while still allowing the trail to move vertically with seasonal or storm event water levels. Moving the trail to a location where it is less impacted by channel flow is also another consideration and was accomplished in 2011. Future grant opportunities should be considered for placing the trail on wood piers that would raise the trail above flooding.

6. Natural disasters – As noted above, many of the phenomena considered to be “natural disasters” are actually a natural part of the forest ecosystem. Among these events most common in the Southern Minnesota Area are flooding, windstorms, hail, and snow/ice storms. Fires may occur, but most likely will be the result of human causes rather than a natural occurrence.

Strategies: Flooding, windstorms and snow/ice storms are part of the natural ecosystem. Cutting and removal of damaged trees is prohibited as the snags, damaged tree limbs, downed branches, and logs that result from such disturbances provide vital habitat and other important natural functions in the forest system. If a damaged tree or snag is blocking an existing trail corridor, then that part of the obstruction should be removed only from the trail corridor as discussed previously.

In the case of fire, the greatest concern is in forested areas infested with non-native invasive species, such as buckthorn, and the wetland areas. Buckthorn can represent a fuel source that may lead to high intensity fires not normally experienced in a deciduous forest. Therefore, removal of buckthorn remains a priority. If fires occur in the wetland area, the event should be carefully monitored and the strategy should be to contain rather than extinguish.

Fire may also be used in the future as a management tool for native grasslands in some areas of Rasmussen Woods/Indian Creek Slough. In those instances, experts in the practice of controlled burns practice should be utilized and public information will be required to inform citizens of the purpose and intent of the activity.

7. Graffiti, litter, and other vandalism – Again, these illegal activities tend to happen in public spaces that are located near urban areas.

Strategies: Utilize the same strategy for these occurrences elsewhere in the City and remove the graffiti, litter, and vandalized item as soon as possible. The strategy of removal will need to take into account the sensitive nature of habitat and other natural features and strive to “do no more harm” than already occurred.

8. Dogs/Pets and Other Domesticated Animals - Dogs, the most common traveling companion, are natural predators that may harass or even kill native wildlife which is protected within Rasmussen Woods/Indian Creek Slough. Domestic dogs and cats also pose several threats to natural resources. They retain a primitive instinct to mark their territories with scent and can spread diseases to other wildlife. The trails in Rasmussen woods are narrow trails, and since pets are sometimes hard to control, even on a leash, they may trample or dig up fragile vegetation.

Strategies: Restrict domestic pets in the Rasmussen Woods/Indian Creek Slough to domestic dogs that must be on a leash. Ensure the signs at entry points which outline rules informing visitors of leash and waste pickup requirements. Possibly consider providing waste stations at entry points that offer bags for waste pick-up and disposal. If uncontrolled dogs and waste continue to be issues, then pets should be banned from the Nature Area.

In no case should horses be allowed in Rasmussen Woods/Indian Creek Slough. The trail surfaces are not designed for horses and horse waste is a continued issue in other Nature Areas. In addition, the existing City Code does not permit horses in City parks unless permitted for an event. Such events should not be permitted in Rasmussen Woods/Indian Creek Slough because of the sensitive context of the area.



### **III. Additional Management Considerations**

What follows is a listing of some of the additional management considerations for Rasmussen Woods/Indian Creek Slough. The items listed below are intended to serve as examples of the kinds of considerations that may be consistent with the overall management goal under some circumstances. It should be noted that additional amenities considered under the management considerations are incompatible with the goal of conserving the area's ecological integrity and may be excluded on this basis. Again, the overall goal of any additional amenity is that it enhance rather than compromise the conservation of the area's ecological integrity. A description of caveats and considerations for such possible future amenities follows each as appropriate. If additional amenities not anticipated here are desired by the City or user groups, they should be carefully considered in the context of whether they are consistent with the overarching management goal.

**A. Elks Nature Center Programming** – The nature center provides a unique setting for social experiences for such special events within Rasmussen Woods/Indian Creek Slough such as Earth Day, community meeting place, and volunteer interactions – all within the context of the purpose and intent of a nature area.

**Strategies:** Prior to 2011, the City undertook a partnership with Minnesota State University, Mankato (MSU,M), interns and volunteers to establish the Elk's Nature Center as a day-use facility that has programming designed to encourage daily public use and offers an established education curriculum to promote activities that protect our natural resources. However, with the 2012 budget, funding has been eliminated. It is proposed that the Center be opened for use by non-profit groups that have an environmental focus, such as the local ornithology group and naturalists, but formal programming will be discontinued.

If funding is available in the future, the focus of programming should be to develop a nature, biological, environmental, natural resource and outdoor education curriculum that helps students with graduation standards in science. Coordination with an intern training sites for post secondary programs and high school mentorship programs would be beneficial. The overall focus of programming at the Elks Nature Center will be teaching ethical stewardship. Programming may include live animal/exhibit education, hands-on learning for students with special needs, service learning for teens, and as a nearby nature education for increasingly urbanized families.

**B. Coordination with Abutting Property Owners** – Abutting properties form an edge that presents possible issues with the preservation of the Rasmussen Woods/Indian Creek Slough as a nature area. It is suggested that an educational effort be made to inform abutting property owners about sound stewardship practices on their property that will minimize negative effects on the ecology of the area. A conservation easement

program may also be beneficial to formalize efforts where private property is preserved in a natural state, but still under private ownership.

**C.** Expansion of Rasmussen Woods/Indian Creek Slough – The acquisition or gifting of properties may occur in order to enlarge the size of Rasmussen Woods/Indian Creek Slough. Before lands are acquired or donations are accepted, the benefit to the original intent of the area as a natural area should be examined in order to determine if the additional land furthers the intent. Such factors as the presence of native species, physical condition, and providing habitat corridors should be examined.

**D.** Interpretation and Waysides – Signage in a natural area is warranted for several purposes. First, to inform visitors at entry points that they have arrived at the location and provide background information regarding area – including rules. Second, signage within the nature area can provide way finding on trail systems for persons not familiar with the area. Third, signage may be warranted for special features within the nature area and provide an educational and interpretive experience for users. Fourth, signage may be appropriate in some areas to identify the boundary of the nature area with abutting property under private ownership. All signage should be designed and placed in the context of the purpose and intent of the setting – in this case a nature area. Sign standards used by the Department of Natural Resources for State Parks and Scientific and Natural Areas should be used as a template for the design of signs.

Because signs at entry points are intended to “set the stage” for visitors, these signs tend to be more formalized and contain text and graphics in order to convey information. Careful consideration is required in the design and placement of these signs – including limiting the number of signs through consolidating the information on as few signs as necessary or within a kiosk. Natural materials should be incorporated into the construction of the sign, however, some manmade material may be necessary for sign faces.

Signs along the trails should be made of natural materials normally found within a nature area, such as wood, and be limited to small directional way finding signage. In some cases, such as highlighting a unique feature, a more formalized interpretive sign may be appropriate. These interpretative signs should be limited within the nature area. In-lieu of these types of signs, guide pamphlets may be provided to visitors.

Boundary signage may be warranted for shared boundaries in cases where encroachment is an issue.

With all signage, the site, situation, and view sheds should be examined in order to avoid situations where the sign may negatively impact the intended experience of the visitor. In addition, information on the interpretive signs should be confirmed with experts in the respective disciplines to ensure accuracy and applicability.

Memorial plaques, markers, and other such signage are not appropriate in the nature area. In a situation where a person or entity made a significant contribution, then the recognition may be appropriate on or within the Elks Nature Center.

**E. Nonconformities** - There exists several nonconformities within the nature area that do not conform to the standards of this management plan. These nonconformities include memorial planting beds that do not contain native species, plaques, gazebos, and signage. It is recommended that nonconformities be allowed to remain, but be allowed to be subject to natural processes that will eventually remove the nonconformity or it will be removed when part of an approved restoration project. In the case of planting beds, the beds should be redesigned with sustainable plantings that provide habitat enhancement and low service levels for maintenance.

**F. Outdoor Recreation** . Outdoor recreation should be structured within the ecological themes of the Nature Area. If a recreational event is to be held in the Nature Area, it should be done within the context of ~~leave no trace~~+ and limited to existing trail corridors. Further Improvement to the trail system, constructing new trails, formalizing fields for organized sports are not appropriate for Rasmussen Woods/Indian Creek Slough

#### **IV. Other Improvements and Use Considerations**

**A. Other Improvements.** Improvements to Rasmussen Woods/Indian Creek Slough should be limited to items that further the purpose and intent. Improvements should be designed to improve and enhance habitat, such as blue bird houses, bat houses, wood duck houses, etc. As discussed previously, improvements, such as private memorials (plaques, formal planting areas, etc), should be discouraged and redirected to parks where such improvements are more appropriate. Existing improvements falling into this category, which were made in the past may remain, but should be redesigned with sustainable plantings that provide habitat enhancement.

**B. Use Considerations.** Proposed uses and special events should be reviewed in the context of the management plan and the classification of Rasmussen Woods/Indian Creek Slough as a nature area within the City Code. The primary purpose Rasmussen Woods/Indian Creek Slough is preservation of nature and habitat. All gatherings and special events must be reviewed under the context of the purpose.

Gatherings and special events should be confined to the Elks Nature Center and abutting shelter. All activities will require a permit from the City which will outline conditions and performance. Private gatherings or private special events should be limited to not more than 25 persons and involve no overnight accommodations. Overnight accommodations and larger group gatherings shall only be permitted in connection with special programming of the Elks Nature Center. Examples of inappropriate activities in Rasmussen Woods/Indian Creek Slough include:

1. Use of motorized vehicles, including ATVs and other off-road vehicles, except as required for maintenance activities undertaken by the City.
2. Use of bicycles within the park.
3. Use of horses in the site
4. Concerts and other performances
5. Sales events not associated with the programming of the Nature Area or Elks Nature Center.

**C. Former BMX Track.** 2. The area formerly occupied by the BMX track is not considered part of the Rasmussen Woods/Indian Creek Slough Nature Area and will be improved by local Veterans groups for expansion of the Vietnam War memorial. Plans must be approved by the City and plans will not include encroachment outside the original BMX area.

## **V. Monitoring**

The Council may consider enlisting the appropriate agencies and nonprofit groups to establish baseline data on the site for the purpose of monitoring implementation and/or attainment of the goals and strategies stated in this management plan. Baseline data is an inventory of existing conditions (i.e. biological data) in the area. In the future, the baseline data is reviewed to help the City assess changes (positive or negative) in order to adapt management practices that will retain the ecological viability of the area. After five years, it is recommended that the monitoring groups check on the progress being made and make recommendations to revise this plan where necessary.

It is suggested that the Planning Commission be charged with overseeing any improvements to Rasmussen Woods/Indian Creek Slough within the context of this Management Plan. Proposed improvements shall be submitted to the City Manager's office for processing to the Planning Commission.

It is also recommended that the property contained within Rasmussen Woods/Indian Creek Slough be formally dedicated as a nature area and park. No such dedication has taken place and such a dedication would ensure the long term retention of the property for the specified purpose.

## **VI. Compliance with Local, State, and Federal Regulations**

Nothing in the above language of this management plan shall be construed to mean that any local codes, ordinances, policies, or state or federal laws are not to be enforced within the boundaries. It is fully expected that the designated enforcement officials will enforce all applicable rules and regulations as appropriate.